

The International Communications Market 2006

4 Radio

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4.1 Radio market developments

This section examines the characteristics of the radio markets of the UK, France, Germany, Italy, the US, Japan and China. Where data is readily available, information has also been provided on Poland, Spain, the Netherlands, Sweden and the Republic of Ireland.

Figure 4.1: Key radio market indicators

	UK	France	Germany	Italy	US	Japan	China
Total industry revenue	£1.2bn	£1.1bn	£2.2bn	£0.8bn	£11.0bn	£1.9bn	£0.2bn
Revs per capita	£21	£18	£26	£14	£39	£15	£0.13
% public funding	50%	55%	80%	56%	0.8%	53%	0%
Number of stations	384	437	327	118	8903	300	273
Listening per head per day	195 mins	174 mins	171 mins	125 mins	167 mins	122 mins	89 mins
Four top station share	41%	35%	51%	28%	n/a	n/a	n/a

4.1.1 Digital radio has a worldwide presence

Digital radio services offer the advantages of interference-free audio and a more efficient use of spectrum. In ten years, digital radio standards and platforms have been developed and deployed worldwide, and some form of digital radio is now available in most of the countries in this study.

Five digital radio platforms available

The first digital radio platform was launched in 1995 in the UK, using DAB technology. This was followed by satellite-based services in the US in the late 1990s and then HD ('HD' stands for 'Hybrid Digital', not 'High Definition'), a terrestrial-based high quality audio standard which gained approval in 2002. Digital Radio Mondiale (DRM) followed in Geneva in 2003 and, separately, the Japanese opted for a single digital standard for television and radio broadcasts (ISDB-T; which is not considered further in this analysis).

These standards can be distinguished by their technical characteristics and the degree to which they can be freely used by broadcasters:

- **DAB** was developed by a pan-European research and development body (EUREKA). An open standard operating on a 'single frequency' principle, it allows a larger number of national DAB stations to be broadcast within a defined spectrum band, compared to FM encoding.
- **HD Radio** was developed by iBiquity as a proprietary digital radio standard for the US market. DAB development has been prevented by the US military's use of the spectrum allocated to DAB;
- **DRM**, sometimes described as "digital AM" developed as an open standard. Using spectrum currently allocated to AM transmissions, stations coded in DRM are capable of travelling long distances; they can also be transmitted on the same frequency as a standard analogue AM radio transmission; and

- **Satellite radio** services have the advantage of a large ‘footprint’ that allows any individual sight of the transmitting satellite to receive radio services delivered from it. In the US, terrestrial ‘repeaters’ ensure that satellite radio is available in places that are not in view of the satellite (e.g. under bridges).

Figure 4.2: The main digital radio platforms

	DAB	Satellite radio	HD Radio	DRM
Distribution technology	Terrestrial	Satellite and Terrestrial relay	Terrestrial	Terrestrial
Spectrum use	174MHz - 240MHz 1452MHz - 1492MHz	2320 - 2333 MHz	AM and FM frequency bands	AM frequency bands
First available	1995	1998	2002	2003
Current availability	UK, France, Germany, Italy, China, Japan	US, Africa, South East Asia	US	US, China, Europe, North Africa
Business model	Advertiser-funded	Subscription and advertising revenue	Advertiser-funded	Advertiser-funded
Lowest set cost	£30	£30	c.£100	c.£600
Number of stations broadcasting	In excess of 400	100 stations, 40 ad free (Sirius)	1015 nationwide in the US	115

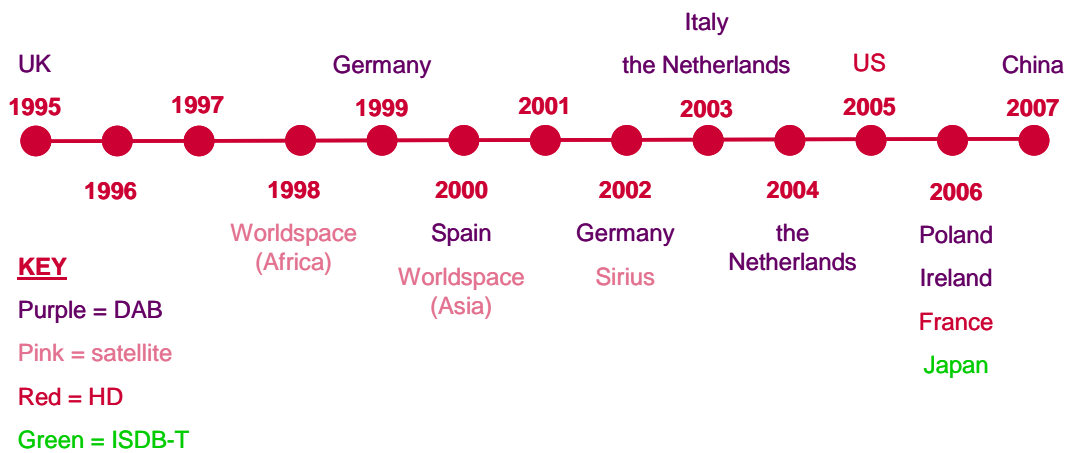
Source: Ofcom research

UK leads the world in the roll-out of digital radio

The speed at which these platforms and services have been deployed has varied from country to country, and regulatory intervention has been commonplace – driven by the need for orderly allocation of spectrum:

- The UK’s DAB launch was followed four years later by Germany, but other European countries took some time before choosing to roll-out DAB infrastructure. France has yet to launch DAB, although it has piloted the technology in Paris and made a commitment to a full launch at the Regional Radio Conference in 2006. Not all countries have found success with DAB, however. The Swedish government suspended its investment in the roll-out of DAB transmission infrastructure following complaints of low receiver availability;
- Satellite radio went live in the US in the late 1990s, although organisations had been set up to exploit the technology in the first part of the decade. The US government issued invitations to tender for two satellite digital audio radio service licences in 1997, which were won by Sirius Radio and XM;
- HD Radio is a US standard for terrestrial radio broadcasts. It was approved for use by the FCC in 2002, and allows analogue radio broadcasters to simultaneously carry analogue and digital versions of their service on a single frequency; and
- DRM transmissions first began in 2003 and by September of that year, 26 stations were on air, including the *BBC World Service*, *China International Radio*, *Radio France* and *Voice of Russia*. In the UK, several commercial broadcasters undertook a DRM pilot in mid-2005, with services that included *Virgin Classic Rock*, *Classic Gold Digital*, *Asian Sound Radio* and *Premier Christian Radio*.

Figure 4.3: Timeline of digital radio platform launches worldwide



Source: Ofcom research

Coalitions have proved popular in the development of digital radio services

With most digital standards (open or proprietary) there has been a coalition-based approach to development. Service providers, retailers and device manufacturers coming together in a joint effort to promote the service, for example:

- The World DAB forum consists of 120 members from 40 countries including Sony, Microsoft, LG, Channel 4, regulatory agencies and some government departments;
- The DRM consortium was founded in 1998 and now includes 90 members from 30 countries, including NHK, Panasonic, RAI, Texas Instruments, the EBU and Radio France including; and
- The HD Digital Radio Alliance in the US is a consortium of broadcasters including ABC Radio Networks, CBS Radio and Clear Channel. Its aim is to raise the profile of HD Radio among consumers.

Satellite radio has shown that subscription services can work

The satellite services available in the US – Sirius and XM – overturned the decades-old free-to-listen radio business model by charging a subscription for access. Some of their radio channels are, as a result, able to run without adverts, a fact that is heavily promoted by the service providers. Far from remaining a niche service, the installation of Sirius radios in some makes of car has enabled satellite radio to break into the US mainstream. By July 2006, Sirius and XM had attracted a total of about 12m subscribers, and the two companies together reported revenue of £444m in their latest annual results. WorldSpace has launched a similar subscription-based service in Africa, South East Asia and parts of Europe which has 115'000 subscribers and is planning to launch in the US.

Figure 4.4: A comparison of the three radio satellite operators

	Sirius Satellite Radio	XM Satellite Radio	World Space
Founded	1990 as CD Radio	1992 as American Mobile Radio Corp	1990
Service	125 channels	150 channels	220 channels (not all available everywhere)
Availability	US	US	130 countries in South East Asia, Africa and parts of Europe
Channels	Includes 68 Music and 55 sports	Includes 73 music, 49 news, 21 regional traffic and weather and 23 sports	At least 33 music, 15 news, 3 talk, 5 spiritual, 3 sport
Subscribers	4.7m (July 2006)	6.9m (July 2006)	115,000 (2005 Annual Report)
Entry-level equipment price	\$50	\$50	\$70
Monthly subscription	\$12.95	\$12.95	\$5 - \$10
Other service information	<ul style="list-style-type: none"> • Some stations are entirely advertising free • Offers exclusive coverage of some major US sports • Some celebrity presenters (e.g. Howard Stern) • Fitted in some cars as standard 	<ul style="list-style-type: none"> • XM uses an antenna in receivers to transmit services to ipod-sized battery operated devices • XM music downloads available via Napster, and some services available through DirecTV • Also used by some US airlines 	<ul style="list-style-type: none"> • Service launch in US planned • Not all channels available to all • Cost of subscription varies by country • Stations available in 17 languages • XM is an investor • 10 models of receiver available

Source: Ofcom research

Different standards compete in some countries, but complement in others

The degree to which standards have competed with one another has varied by country. The growing popularity of satellite radio in the US is believed to have encouraged terrestrial radio broadcasters to adopt HD Radio as a means of offering services of a comparable audio quality. By contrast, DAB and DRM have been characterised as natural complements to one another – so much so that hybrid radio receivers are now in development and will be able to decode DAB and DRM alongside AM and FM.

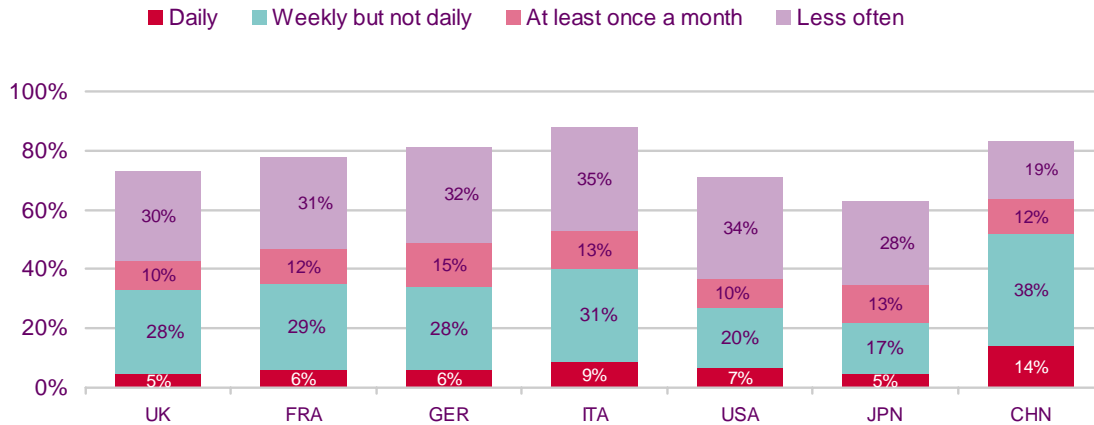
4.1.2 Broadband users not substituting listening for surfing

As part of this study, Ofcom commissioned an online quantitative survey of broadband users in the seven main countries under consideration (UK, France, Germany, Italy, US, Japan, China). Part of the survey looked at the relationship between new media and established media consumption habits.

Results of the survey showed that in all countries at least six in ten respondents with broadband at home have at some point listened to a radio station over the internet – Italy had the largest proportion of respondents who said they had done so (88% having ever listened) and Japan the smallest proportion (63%). Italy also had the most intensive internet radio consumers, with 9% of broadband users reporting daily listening. Respondents in Japan and the UK were least likely to consume internet-based radio services on a daily basis, with just 5% of those surveyed doing so.

Figure 4.5: Internet radio consumption patterns

Proportion of adults with broadband at home (%)

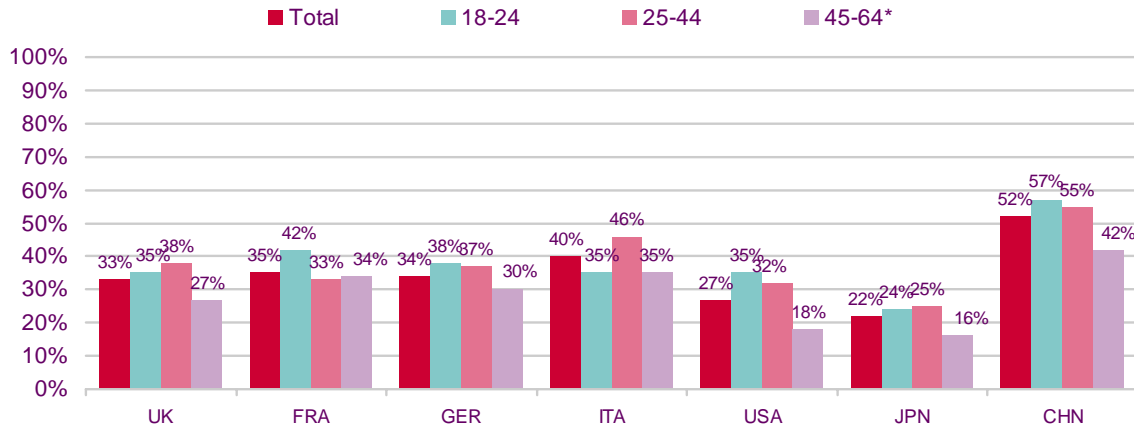


Source: Ofcom research, fieldwork carried out by Synovate in October 2006

Figure 4.6 shows those listening to radio online on at least a weekly basis by age. Across all countries, respondents in the oldest age group of 45-64 listen to radio online less than the total proportion of all respondents doing so (although not significantly so for all countries). The degree of 'drop off' is greatest among respondents in the US (18% vs. 27%) and least pronounced in France (34% vs. 35%).

Figure 4.6: Weekly listening to online radio stations by age

Proportion of adults with broadband at home (%)



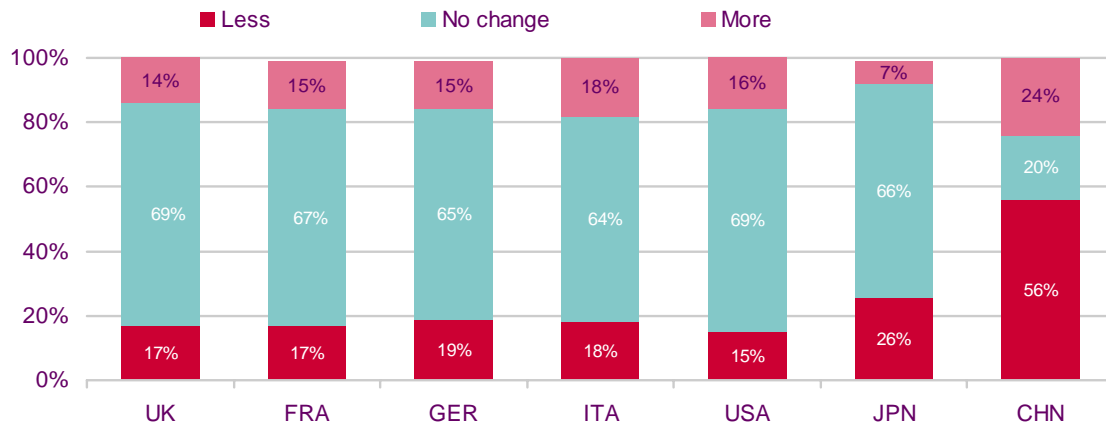
Source: Ofcom research, fieldwork carried out by Synovate in October 2006

The time that broadband users spend online The respondents in the survey were asked about changes in their media consumption since starting to use the internet. Internet use does not appear to have had a substantial impact on offline radio consumption habits when compared of its impact on other media platforms. This may be connected to the ambient nature of radio, which allows listeners to multi-task. Around one in five respondents said that they listened to the radio offline less, and just under one in five said that they listened to it more since using the internet, in all countries except Japan. In Japan, one in four respondents say they have decreased their offline listening, and less than one in ten say that they have increased it.

This result is perhaps consistent with lower overall levels of radio listening in Japan, alongside substantially higher levels of television viewing at breakfast, which is traditionally radio's most popular period of listening.

Figure 4.7: Change in offline radio since first using internet

Proportion of adults with broadband at home (%)

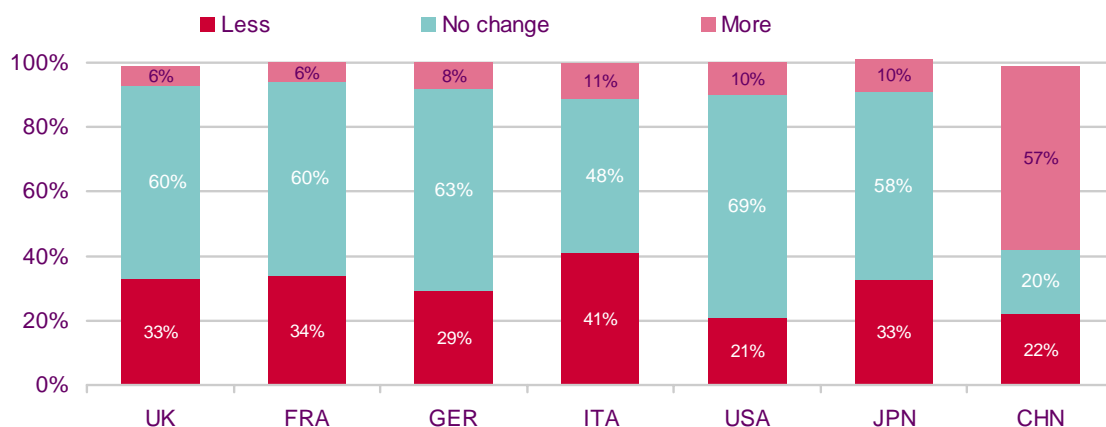


Source: Ofcom research, fieldwork carried out by Synovate in October 2006

These results suggest that, even without online distribution strategies, the pattern of increasing internet consumption does not necessarily imply a decline in listening to traditional analogue stations. Add to this the fact that a large number of radio stations are now available online, and the benefits of the internet towards radio networks could well offset any threats posed by substitution. This contrasts with offline television consumption which suffers from reduced consumption as a result of internet access.

Figure 4.8: Impact of internet access on offline television viewing

Proportion of adults with broadband at home (%)



Source: Ofcom research, fieldwork carried out by Synovate in October 2006

4.2 The radio industry

4.2.1 By 1930, radio markets were well established in many countries

The earliest audio services were launched in the late nineteenth century delivering music news-based content to telephone handsets.

Broadcast-based radio services first launched in the 1920s and by the 1930s had become well established in the more developed economies. As with television, radio industries in a majority of the countries examined in this study were set up with a public service ethos. These broadcasters were often state-owned and had a mission to promote cultural and educational development.

The exception was the US, where from the outset, the industry was built on an advertiser-funded model. In the early 1920s, the UK-owned firm Marconi disposed of its US-based radio operators to the Radio Corporation of America (RCA). 1926 saw the formation of the National Broadcasting Corporation from the radio assets of AT&T, creating a broadcasting brand that lasts to this day.

Advertising-funded radio broadcasting took longer to arrive in many other countries (for example in the 1970s in Italy and the UK), often following (though sometimes accompanying) the deregulation of the national television market. The first commercial operators were mostly local, with national commercial radio only being licensed in the 1980s and 1990s.

The last ten years have seen digital distribution infrastructure becoming widely available:

- Live and on-demand radio services launched on the internet;
- DAB networks established in many countries;
- Satellite-based digital radio services launched in the US and Europe;
- HD radio launched in the US; and
- DRM developed as an alternative broadcast-based digital radio standard.

By 2006, DAB services were available in most of the countries under consideration in this study; satellite radio was well established in the US and the internet was being used by a wide variety of radio station operators to widen the reach of their services and make content available to listeners in new formats.

4.2.2 Global radio industries reach £25bn in 2005

Global radio industry revenues reached £25bn in 2005, and grew at an average annual rate of 4.0% p.a. over the period 2001 – 2005. Commercial revenue took the larger portion of that total, accounting for 75% or £18bn in 2005. Public funding accounted for the remaining 25% or £6bn. Commercial sources of revenue also showed the greatest capacity for growth in that period, having expanded at an average annual rate of 4.5% p.a. while public funding increased at just 2.5% p.a.

Figure 4.9: Global radio industry revenues, 2001 - 2005



Source: PricewaterhouseCoopers Global Entertainment and Media Outlook 2006-2010

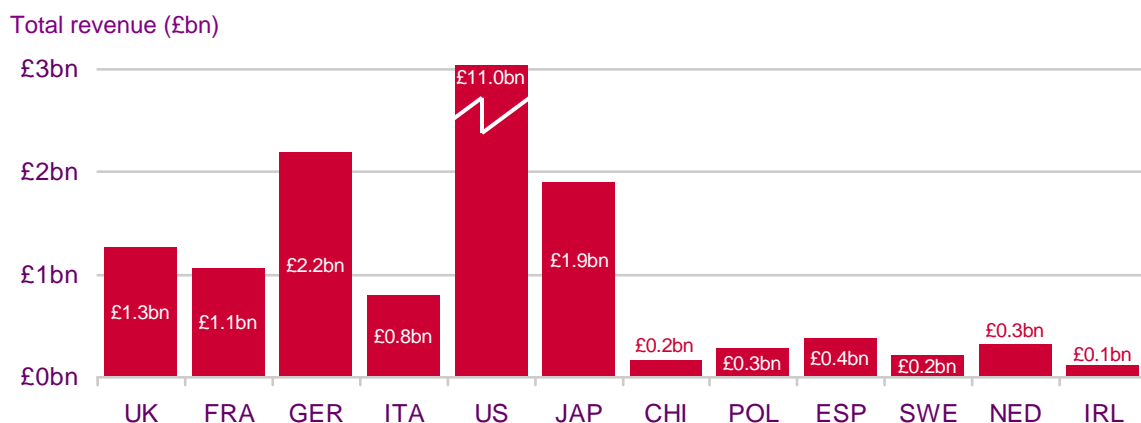
4.2.3 US revenues the largest at £11bn; China, Poland and Ireland growing fast

The US radio market is the largest in the world in revenue terms, generating income in the region of £11bn in 2005.

Ninety five per cent of this is drawn from advertising with merely 5% from satellite subscription-based radio services such as Sirius and XM. Less than 0.5% of the total is accounted for by public funding, with National Public Radio (NPR) receiving £96m in the last available accounting period.

Of the remaining countries in this study the German radio industry ranked second by revenue in 2005 with £2.2bn, followed by Japan with £1.9bn. The UK came in fourth place with £1.2bn.

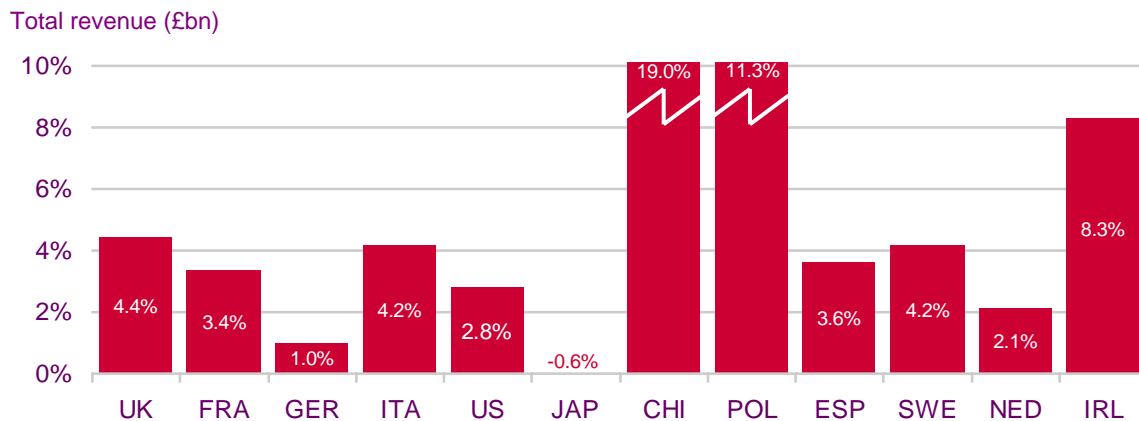
Figure 4.10: Radio industry revenue, 2005



Source: PricewaterhouseCoopers Global Entertainment and Media Outlook 2006-2010

The radio industries in China, Poland and Ireland have all enjoyed double digit or near double digit growth over the period 2001 – 2005. In China and Poland this has been driven by strong advertising revenue growth, while in Ireland, both advertising revenue and public funding have shown significant growth over the period.

Figure 4.11: Radio industry revenue growth, 2001 - 2005



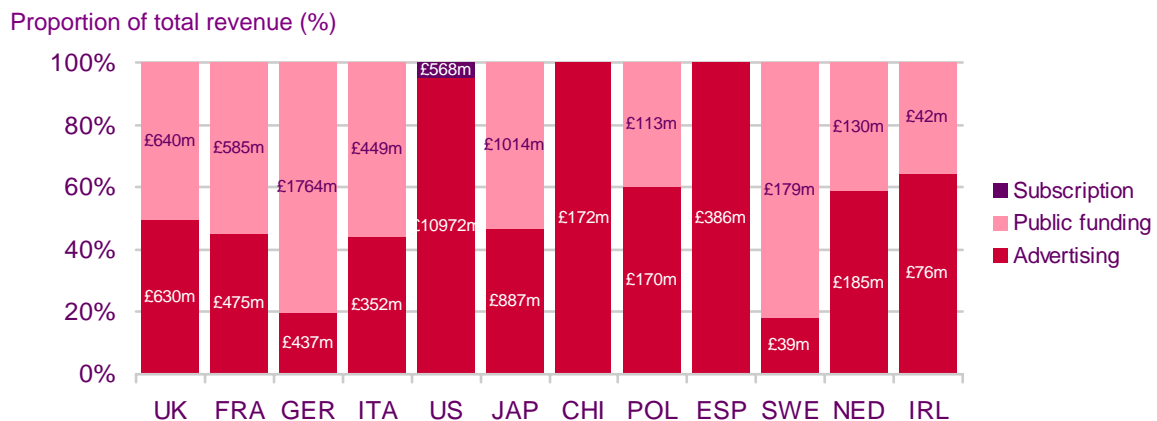
Source: PricewaterhouseCoopers Global Entertainment and Media Outlook 2006-2010

The Swedish and German radio markets are primarily publicly funded

The model of radio industry funding varies from country-to-country. The Chinese and Spanish radio industries are funded entirely from advertising. The US market is mainly supported by advertising revenue, although a small but fast-growing proportion is generated from subscription radio.

At the opposite end of the spectrum, the Swedish and German industries are heavily funded from the public purse. France, Japan and Italy are all (roughly) equally funded from advertising and public funds. So is the UK, but it is worth noting that the UK PSB radio market tends to be defined more broadly than in other countries – including publicly funded operators, advertiser-funded radio groups, and community radio broadcasters. For the purposes of the remaining analysis, however, PSB radio is defined to mean those groups in receipt of public funding.

Figure 4.12: Proportion of radio industry revenue, by source

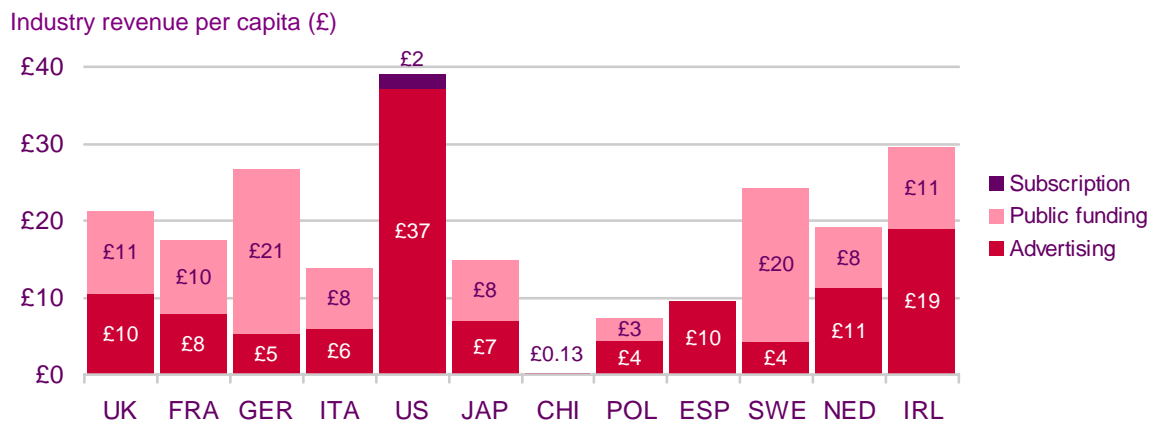


Source: PricewaterhouseCoopers Global Entertainment and Media Outlook 2006-2010

The US industry is also the largest on a per capita basis

On a per capita basis, the US still ranks as number one, generating £39 per head of population. Perhaps surprisingly, Ireland comes second at £26 per head (perhaps explained in part by the fact that ROI commercial radio stations can be received by listeners in Northern Ireland). At £26 per head, Germany ranks third while Sweden comes in at £24.

Figure 4.13: Radio industry revenues per capita

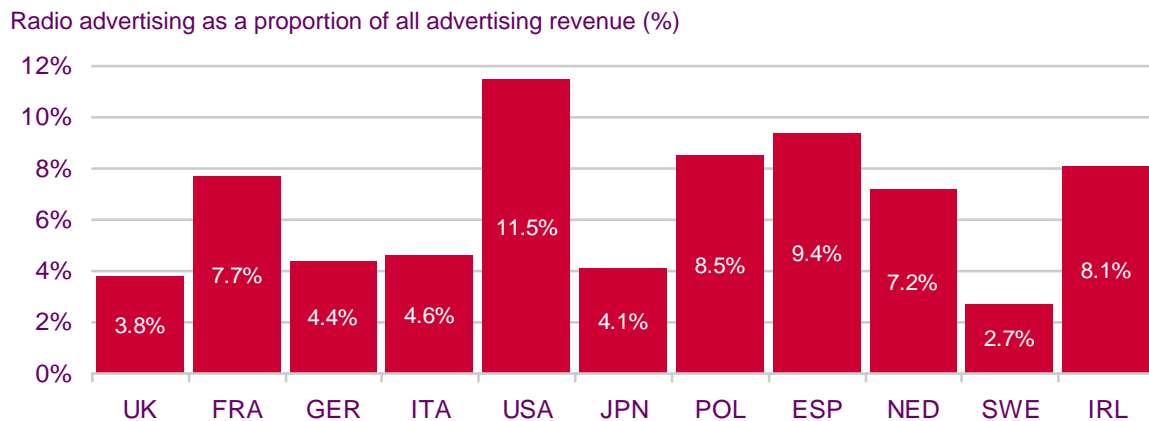


Source: PricewaterhouseCoopers Global Entertainment and Media Outlook 2006-2010 and Ofcom analysis

4.2.4 Radio accounts for a significant proportion of total US ad revenue

The role of radio advertising varies substantially by country. In the US, radio makes up a significant proportion of all advertising revenue, accounting for 12% of total spend. In other territories, radio advertising falls into two main clusters: France, the Republic of Ireland, the Netherlands and Poland fall in the range 6%-9%, while the UK, Japan, Germany and Italy come in the range 2% - 4% of the total advertising spend.

Figure 4.14: Radio advertising as a proportion of total advertising spend 2005



Source: World Advertising Trends 2006, World Advertising Research Centre Ltd

Many markets occupied by a small number of large radio groups

Across most of the countries in this study, the PSB radio operator still takes a significant share of industry revenue. Many of these radio providers are now related to television networks – providing powerful cross-promotional opportunities. Such operators include RAI in Italy, NHK in Japan, ARD in Germany and the BBC in the UK. Radio France, which operates independently of France Télévisions, is the exception to this pattern.

Among commercial radio operators, Clear Channel in the US has grown rapidly to become the largest radio group in the world (as measured both by the number of stations and by revenue), due to the US government's progressive deregulation of the number of licences that could be held by a single operator in any one market. The company held 43 licences in

1995 but following the most recent deregulatory steps, taken in the *Telecommunications Act 1996*, it was able to push ahead with an ambitious acquisitions strategy, resulting in its radio portfolio growing to over 1,200 stations by 2006.

The German commercial radio market, by contrast, is characterised by a set of cross-group shareholdings in the country's biggest radio stations – so that, for example, RTL and Axel Springer each have minority shareholdings in Antenne Bayern and Radio Hamburg.

Figure 4.15: Major radio operators with example stations, by country

Country	Operator/investor	Status	Example stations
UK	BBC	Public	BBC Radio 1-5Live, 1Xtra, 6Music, BBC7, 3 x nations, 42 local radio
	GCap	Private	Classic FM, XFM, Choice FM, Capital Gold
	Emap	Private	Magic, Kiss, Kerrang, Heat, The Hits, Mojo, Smash Hits, Q
	Chrysalis	Private	Galaxy, Heart, LBC, Arrow
France	Radio France	Public	France Inter, France Bleu, France Info, France Musiques, France Culture
	RTL Group	Private	RTL, Fun Radio, RTL2
	NRJ Group	Private	Chérie FM, Nostalgie, NRJ, Rire and Chansons
	Lagardère Active	Private	Europe 1, Europe 2, RFM
Germany	ARD	Public	NDR 1, Bayern 1, Eins Live, WDR 4, MDR 1, SWR 4, hr4
	RTL	Private	Radio NRW, Antenne Bayern, Radio Hamburg, Radio Regenbogen
	Axel Springer	Private	Radio NRW, Antenne Bayern, Radio Hamburg, Radio RSH
	Hubert Burda Media Holding	Private	Antenne Bayern, Hit-Radio FFH, Hit-Radio Antenne
Italy	RAI	Public	Radio Uno, Radio Due, Radio Tre, Isoradio, Nottumo Italiano
	Eruppo Editoriale L'Espresso	Private	Radio DeeJay, Radio Capital, m2o
	Finelco Holding	Private	RMC Radio, Montecarlo, Radio 105 Network
	Suraci Group	Private	RTL 102.5 HIT Radio
US	Clear Channel	Private	Owns 1200 stations
	Cumulus radio	Private	Owns 266 stations
	CBS radio	Private	Owns 180 stations
	Cox	Private	Owns 79 stations
	NPR	Public	Supplies programming to 800 not for profit radio stations
Japan	NHK	Public	NHK Radio 1 (AM), NHK Radio 2 (AM), NHK-FM
	Japan FM Network	Private	Tokyo FM Broadcasting
	Japan Radio Network	Private	TBS Radio (AM)
	National Radio Network	Private	Nippon Cultural Broadcasting (AM), Nippon Broadcasting System (AM)

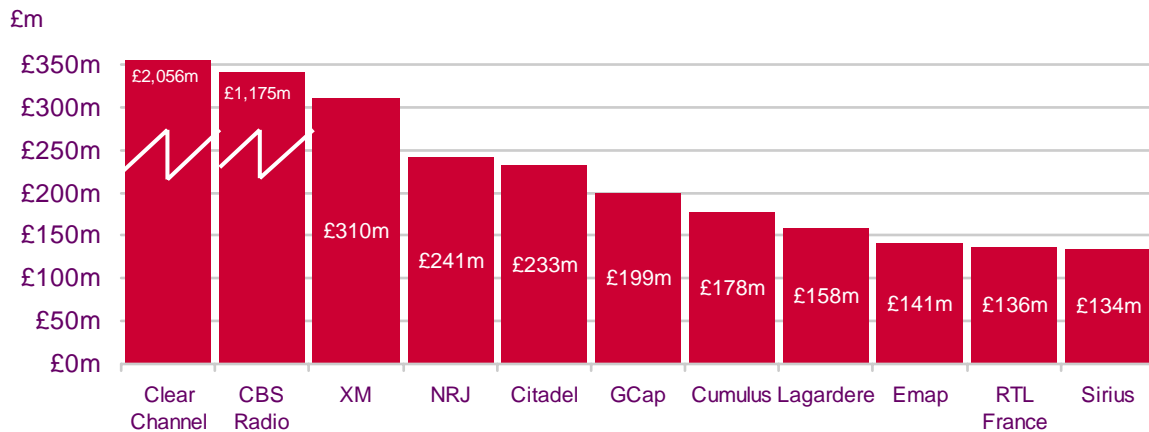
Source: Ofcom research

French and UK radio groups generate largest revenues in Europe

Clear Channel reported revenues of £2,056m in 2005, making it the largest radio group in the world, while CBS Radio came second in that year with revenues of £1.bn.

The strength of the satellite radio market in the US is illustrated by XM's third place in this ranking of selected commercial radio groups, with reported annual revenue of £310m. NRJ is the largest European radio group with reported revenues of £241m in 2006, closely followed by Citadel in the US (233m) and GCap in the UK (199m).

Figure 4.16: Radio group revenues for the latest financial year



Source: Latest annual reports

Notes: Figures taken from latest available annual reports. Wherever possible, radio broadcasting-related revenue has been separated from other sources of income; however it is possible that non radio-broadcasting revenue remains in these figures quoted, which would tend to overstate total revenue. Comparisons are therefore for indicative purposes only.

Some operators have expanded internationally

The international export of radio formats, in the sense that this occurs with television formats, is not widespread. This may be owing to (i) the dominance of music in many radio station schedules (ii) the personality-driven nature of the speech that often surrounds the music and (iii) the fact that speech output is often closely tied to a country's language and culture.

That said, the US has often been credited with the development of new creative approaches and techniques in radio broadcasting – for example the growth in popularity of the 'zoo' format (where a main radio presenter is joined by a gang of friends who actively contribute to the talk-based elements of a radio show) which can trace its history back to US morning radio shows in the 1980s. Furthermore, the growth of so-called 'shock-jocks' (exemplified by Howard Stern) came about as a result of the abolition in the US of the fairness doctrine that required balance and impartiality to be maintained in broadcasts.

While the nature of the radio medium may not lend itself well to format exploitation in the way that television programmes do, some of the larger radio groups have undertaken a programme of international investment and expansion:

- Clear Channel now owns or has an equity stake in 240 radio stations in Australia, New Zealand and Mexico;
- NRG, founded in France, has focused its attentions on European markets, and now has operations as far afield as Norway and Switzerland; and
- RTL in Europe has a long history of pan-European radio broadcasting from its original base in Luxembourg.

Figure 4.17: Location of overseas radio stations owned by main radio groups

Country	Operator/investor	International interests
UK	Emap	Republic of Ireland
France	NRJ	Germany, Austria, Switzerland, Belgium, Sweden, Finland, Norway, Denmark
Luxembourg	RTL	France, The Netherlands, Belgium, Luxembourg, Spain, Portugal
US	Clear channel	New Zealand, Mexico, Norway, and Australia.

Source: Ofcom research

PSB radio stations carry a diverse set of genres

An analysis of PSB radio output by country and genre reveals a common commitment to genre diversity, with unique characteristics by country.

Radio output genre analysis - explanation

The European Broadcasting Union (EBU) collects annual data on PSB output by radio station and by genre. With the permission of those broadcasters that had already lodged their 2005 data with the EBU, a single set of genre hours was created for each country by aggregating output data from each PSB radio station in that country.

The BBC had not, at the time of writing, lodged its output data with the EBU, and consequently, its most recent annual report was used to provide proxies for the genre categories used by the EBU. These proxies are imperfect in three regards:

1. The hours of 'music' broadcast by BBC Radio 1, 1Xtra, Radio 2 and 6 Music were all included in 'modern music'.
3. 'Other music' was used as the category for the Asian Network
4. 'Science and education' was used for BBC Radio's arts, factual and schools output

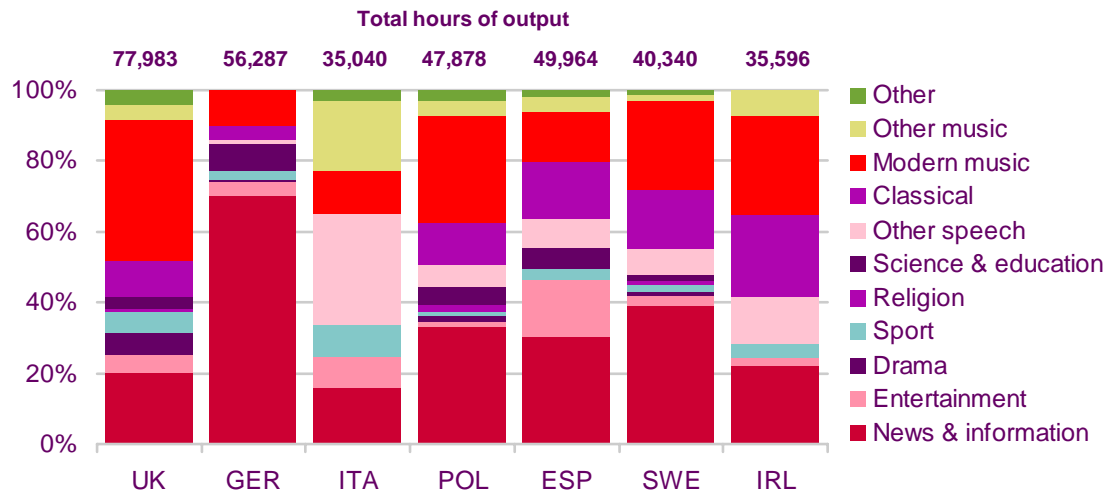
News, weather and current affairs are a strong feature of all PSB radio schedules; ARD in Germany placed particular emphasis on this category with nearly 70% of all hours devoted to it. RAI's radio networks focus least on news and information, concentrating instead on other speech output (for instance phone-ins, pundit-based shows etc).

Classical music is a feature of the PSB radio schedules in a number of countries – notably Spain and Ireland, with some classical output in Sweden, Poland and the UK. Modern music (which includes the EBU definitions of rock, hip-hop and middle-of-the-road music) is also a popular choice with most PSBs, with the exception of Italy and Germany.

The UK's PSB radio market distinguishes itself by devoting a small but notable proportion of its output to drama – Poland is the only other country where a PSB reported any material level of drama output at all.

Figure 4.18: PSB output by genre

Proportion of output (%)



Source: Relevant country operators and Ofcom analysis

Note: EBU music definitions of 'middle of the road' and 'hip hop and rock' were consolidated into 'modern music'.

4.3 The radio listener

4.3.1 Most countries now broadcast radio over all the major platforms

The radio transmission standards familiar in the UK are widely available across the world, although the timing of their introduction and the pace of roll-out has varied by country.

AM was the transmission standard on which most inaugural radio transmissions were based in the 1920s. Experimentation with FM began in the US in 1937, although full FM broadcasts did not become commercially available until 1945, and the market only really began to develop in the 1950s, when the BBC also began FM broadcasts. Other countries adopted FM in the years that followed.

Today, the full FM broadcast band is set at 87.5MHz to 108.5MHz, with the most notable exception being Japan where the band is narrower (76.0MHz to 90MHz).

Analogue radio standards

There are two main analogue radio standards:

AM Radio (Amplitude Modulation) – A method of radio transmission in which information is encoded through variations in the amplitude of a carrier wave. Depending on the carrier frequency the bands used for AM radio transmission are referred to as Short Wave (SW), Medium Wave (MW) or Long Wave (LW). While lower frequency signals (as used in AM compared to FM) can travel further, AM is very susceptible to interference and has poor quality compared to FM.

FM Radio (Frequency Modulation) – In FM radio transmission information is encoded through variations in the frequency of a carrier wave. This method results in higher-fidelity sound than in AM (making it more suitable for music) and higher tolerance to interference. FM radio operates in the VHF band between 87.5MHz and 108MHz which limits its range when compared to AM radio.

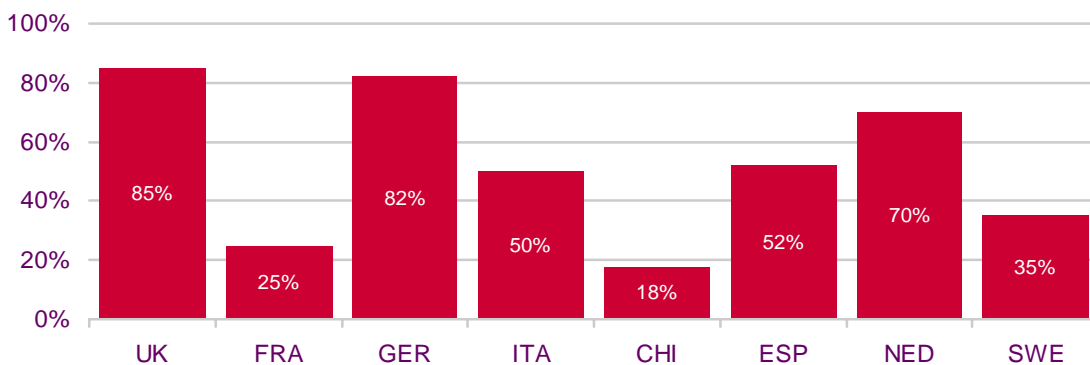
DAB roll-outs worldwide have ranged from successful national deployments, through more localised experimentation, to the cancellation of roll-out plans in some countries:

- Germany and the UK currently rank as two of the highest countries for DAB coverage. Germany first began DAB roll-out in April 1999 and about 85% of the population can now receive a DAB signal. The UK made its first DAB broadcasts in London in September 1995 and in 1997 a national roll-out plan was announced. Around three and a half million UK homes (11%) own at least one DAB set. The range of stations available is set to expand now that Ofcom has announced its terms to licence a second national multiplex.
- China's Beijing and Guandong provinces can now receive DAB services, covering a population of 27m. It has been reported by the World DAB Forum that orders for 500,000 receivers were recently placed and that China has made plans to roll out DAB on a wider scale in time for the 2008 Beijing Olympics.
- A six-month DAB pilot was run in Paris in 2006, while in Ireland national broadcaster RTE undertook a similar trial in the first half of 2006, with two transmitters carrying six DAB channels.

- In Poland the national public broadcaster Polskie Radio broadcasts five services out of Warsaw. Poland's Office of Telecommunications and Post Regulation (URTIP) is now in the process of planning a digital switchover programme for television, which would provide space for additional DAB services.
- DAB in the Netherlands and Sweden has received a more mixed reception, with roll-out and investment in both countries having recently been suspended to assess the opportunities offered by alternative technologies. In the meantime, however, Stockholm and a number of other Swedish cities can still receive DAB transmissions.

Figure 4.19: DAB coverage by country

Percentage of population covered



Source: World DAB Forum and Digital Radio 2006, © Eureka Research, UK

Digital radio standards

In digital radio, voice or music is digitised and compressed before transmission. This allows for more efficient use of the available spectrum, allowing more channels to be carried per frequency unit and higher tolerance to interference and greater potential for new services.

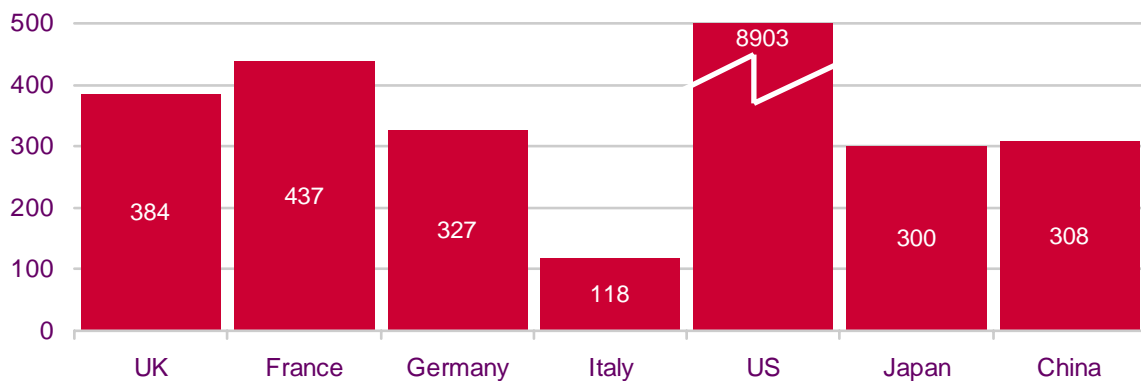
DAB (Digital Audio Broadcasting) - In Europe, DAB radio is based on the Eureka147 standard that employs MPEG2 audio coding. Individual radio streams are combined to form multiplexes transmitted over single frequency bands. The most popular frequency bands for DAB are Band III and L-Band.

DRM (Digital Radio Mondiale) – A digital audio broadcasting standard based on MPEG-4 encoding (more efficient than MPEG2). It is designed to be used in the AM (MW) band, providing more capacity and higher quality (compared to FM) while using the same AM transmitters, thus minimising new investment.

Broadcast radio stations per country typically in the low hundreds

Most countries in Western Europe and in Japan have licensed a few hundred stations, ranging from just over 100 in Italy to around 500 in the UK, a large proportion of which are local. The exception is the US where there are at least 8,900 stations – mostly local.

Figure 4.20: Number of local and national radio stations per country



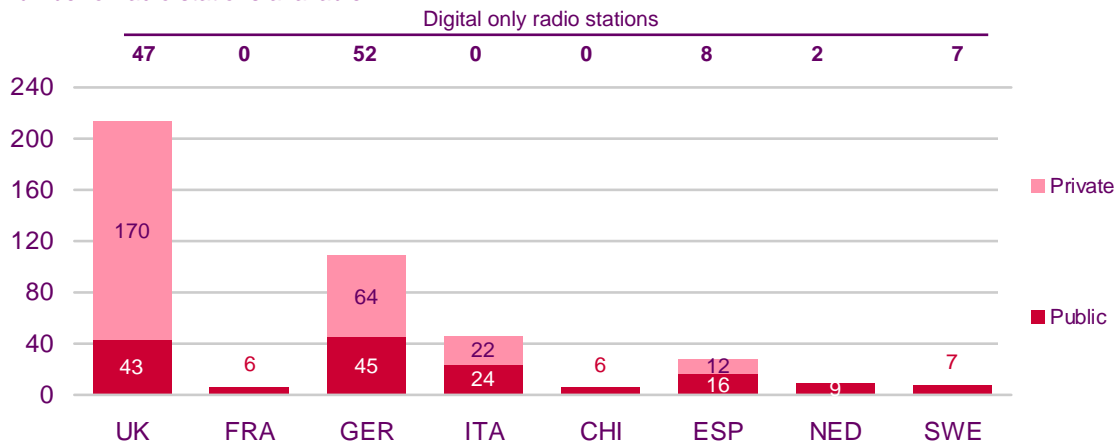
Source: AMR International Ltd, FCC, World Dab Forum and SARFT

In those countries where DAB is available, the number of radio stations available varies considerably from country to country. The UK offers the largest number of channels over the platform, although many of these are regional services and are therefore only available to part of the population. Germany ranks second with 109 channels (including many regional services) while Italy comes third with 66.

The UK stands out as the country with the greatest degree of private-sector involvement in the DAB platform – 80% of the stations on the platform are funded by the private sector. Along with Germany, the UK also offers the largest number of stations that are only available over DAB and other digital platforms.

Figure 4.21: Radio stations available over DAB

Number of radio stations available



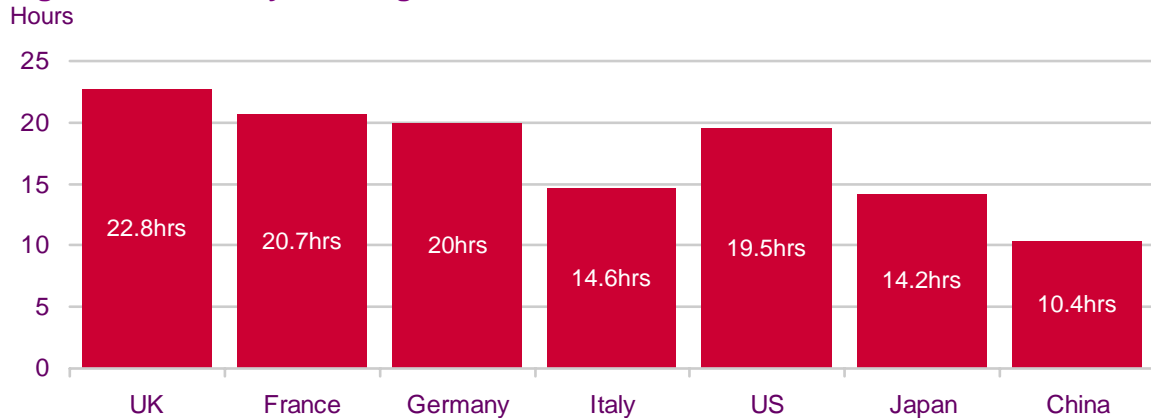
Source: Digital Radio 2006, © Eureka Research, UK

People in the UK listen to the most radio

People in the UK listen to more radio than those in any other country in this study, averaging 22.8 hours per week or 195 minutes per day. They are followed by French, German and US listeners, who all listen to around 20 hours per week, or 171 minutes per day. By contrast, the Italians and Japanese listen less at around 15 hours per week or 129 minutes per day.

The lightest radio consumers – in common with their television consumption habits – are the Chinese, who listen to just 86 minutes of radio per day. This may, as with television, be connected to a different pattern of activities during the day (for example a longer working day).

Figure 4.22: Weekly listening hours, 2005

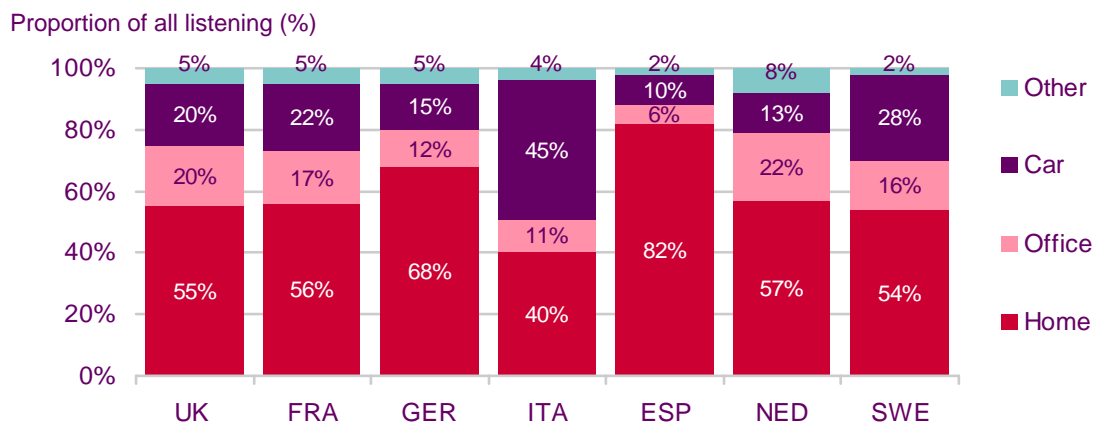


Source: AMR International Ltd, Mediametrie, SARFT

In-car listening is favoured by Italians; the Spanish listen mostly at home

The location of listening to radio differs from country to country, probably also influenced by differences in patterns of activity throughout the day. For example, a large proportion of Italian listening is in the car, in contrast to the Spanish who mostly listen at home. Listening in the office is least popular with the Italians, the Germans and the Spanish.

Figure 4.23: Location of all radio listening, 2003



Source: Public Radio in Europe 2004 (EBU) and Ofcom analysis

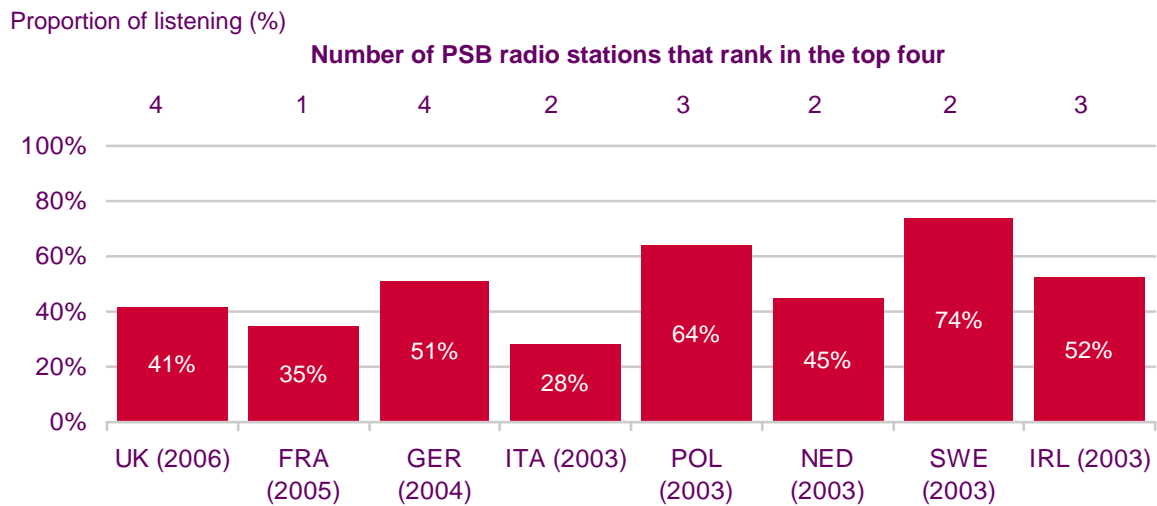
Radio listening more concentrated in Sweden and Poland – fragmented in Italy

Swedish listeners show loyalty to fewer radio stations than those in other countries surveyed, with the aggregate share of the four most popular stations accounting for 74% of all listener hours; three of the four are PSB stations. Polish listening patterns are also concentrated, with four stations accounting for 64% of hours, of which two are PSBs.

France, Germany, the Republic of Ireland, the Netherlands and the UK all have four-station concentration figures in the region of 39% - 51%. In France, only one PSB radio station features in the top four. At the opposite extreme, all four top slots in the UK are taken by BBC national stations.

At the opposite end of the spectrum, Italy presents the least concentrated radio market in this study, with the four most popular stations accounting for just 28% of all listening - with two RAI stations in the top four.

Figure 4.24: Top four-station listening share

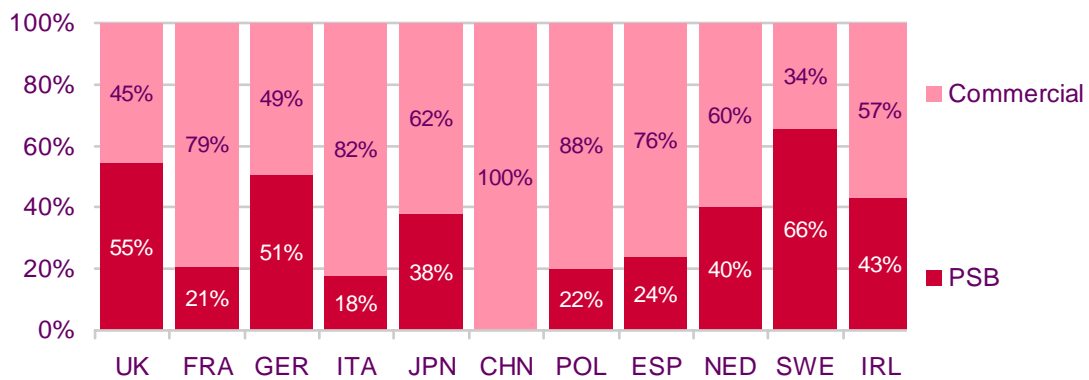


Source: *Public Radio in Europe 2004 (EBU) and MediaMetric*

4.3.2 PSB radio's share is strong in the UK, Sweden and Germany

The availability of cross-promotional opportunities and access to sizeable budgets has ensured that in many territories, PSB radio commands a sizeable share of audience listening – so much so that in Germany, Sweden and the UK, PSB attracts a majority of hours. ROI and Dutch listeners devote approximately 40% of their listening to PSB radio stations, while in Italy, France, Spain and Poland the figure is closer to 20%.

Figure 4.25: PSB radio share of listening, 2003



Source: *Public Radio in Europe 2004 (EBU) and Rajar*